

Robert W. Carpick

John Henry Towne Professor and Chair
Mechanical Engineering and Applied Mechanics (MEAM)
Materials Science and Engineering (MSE)

[Email](#) | [Research Webpage](#)

Honors and Awards: Fellow of the American Physical Society - 2012, ASME Burt L. Newkirk Award - 2009, Penn Fellow - 2009, ASEE Outstanding New Mechanics Educator Award - 2003, 3M Untenured Faculty Award - 2002, NSF CAREER Award - 2002

Research Expertise: Mechanics of Materials

Rob conducts his research at the intersection of mechanics, materials, and physics. He is an expert in experimental nanomechanics and nanotribology (friction, adhesion, and wear). His lab has developed novel advanced scanning probe microscopy tools, used to investigate the fundamental nature of materials in contact. Rob has done seminal work on nanoscale characterization of friction for many important materials, including ultra-thin organic films, solid single crystal and thin film surfaces including ultra-strong carbon-based materials, and polymeric materials.

Member of:

- [Nano/Bio Interface Center \(NBIC\)](#)
- [Laboratory for Research on the Structure of Matter \(LRSM\)](#)
- [Penn Center for Energy Innovation](#)

Affiliations: Executive Committee - Nano/Bio Interface Center; Physics Graduate Group Member

Education:

Professional Experience 1998-1999 - Sandia National Laboratories
PhD 1997 - Physics - University of California at Berkeley
MA 1994 - Physics - University of California at Berkeley
BS 1991 - Physics - University of Toronto

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